DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-027088
Date Inspected: 20-Jan-2012

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Job Site

CWI Name:	See Below		**CWI Present:**	☑ Yes	☐ No
Inspected CWI report:	☐ Yes	☑ No ☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No ☐ N/A
Electrode to specification:	☑ Yes	☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No ☐ N/A
Qualified Welders:	☑ Yes	☐ No ☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No ☐ N/A
Approved Drawings:	☑ Yes	☐ No ☐ N/A	**Approved WPS:**	☑ Yes	☐ No ☐ N/A
			Delayed / Cancelled:	☐ Yes	☑ No ☐ N/A

Bridge No: 34-0006
Component: OBG

Summary of Items Observed:

At the start of the shift this Quality Assurance Lead Inspector (QAI) traveled to the SAS project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) Quality Control (QC) personnel. The observations and inspections were performed as noted below:

A). This Quality Assurance Lead Inspector (QALI) assigned the QA Inspectors to the following, but not limited to the work station(s) listed , to observe the welding and the QC inspection of the following:

Doug Frey-OBG Field Splice E12/E13(Observation of repair welding and QC inspection of the bottom plate splice identified as D2), OBG field splice E13/E14 (Observation of repair welding operation and QC inspection of the side plate splice identified as "E1 & E2") and QA NDE verification.

Ken Riley-OBG W12 (OBG Field Splice W12/W13 (Observation of repair welding and QC inspection of the bottom plate splice identified as "D1 & D2") and submittal reviews.

Skyway-No Work

NOTE: See QA daily Weld Inspection Reports (WIR) and NDE reports for additional information and details.
Quality Assurance Lead Inspector (QALI) Summary

This QA Lead Inspector (QALI) observed the QA Inspector's Douglas Frey and Ken Riley monitor the work performed by the QC inspectors at random intervals and also observed the QA Inspectors verify the welding

parameters, the minimum preheat and the maximum interpass temperatures for compliance with the contract specifications. The QAI's utilized a Fluke 337 clamp meter to measure the electrical welding parameters, Tempil Heat Indicators and/or a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. At the conclusion of the shift, this QA Lead Inspector discussed and reviewed the work performed by the QAI's in regards to the various observations and the verifications of the WPS's, consumables, welding parameters, preheat and interpass temperatures. The QAI observations of the QC inspection and verification of the welding parameters performed on this date appeared to comply with the contract specifications and no issues was noted on this date. This QALI also verified the following in progress work:

The QA verification of the above items appeared to comply with the contract specifications.

OBG Field Splice W12/W13

The QAI observed the welder, Fred Kaddu ID # 2188 perform the repair welding of the areas marked as UT rejects on the Complete Joint Penetration (CJP) groove weld identified as WN: 12W-13W-D1. The repair welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process and the 4.0 mm electrode as per the Welding Procedure Specification (WPS) identified as ABF-WPS-1001 Repair Rev. 0. The WPS was also used by the QC inspector, Sal Merino, as a reference to monitor and to perform the in progress production welding. The welding parameters were noted as 179 amps. The welding was performed in the flat position (1G) with the work positioned approximately in a horizontal plane and the weld metal to be deposited from the upper side. This QAI also observed and verified the dimensions of the excavations which were noted as follows: 1) Y=760 mm, d=16 mm, L=120 mm 2) Y=1000 mm, d=13 mm, L=115 mm and 3) Y=1750 mm, d=13 mm, L=90 mm.

This QAI also observed the welders Rory Hogan ID # 3186 and Richard Garcia ID # 5892 perform the repair welding of areas indicated as UT rejects on the weld joint identified as WN: 12W-13W-D2, R3. The welding process and WPS utilized are the same as noted in the above paragraph. Mr. Merino monitored the welding and this QAI observed and verified the surface temperatures and welding parameters which appeared to comply with the contract specifications. This QAI also observed and verified the dimensions of the excavations which were noted by the QC inspector as follows: 1) Y=5900 mm, d=26 mm, L=190 mm and 2) Y=2030 mm, d=24 mm, L=115 mm. The QA verification of the above items appeared to comply with the contract specifications. See Summary of Conversations for additional information.

QALI NOTE: Due to inclement weather (rain) the following work was suspended on this date:
Pipe Welding (FW Spencer)

Lifting Lug Holes at East and West Bound OBG (ABF)

QA Summary

The QC inspection and welding performed on the lifting lug holes and pipe welding was observed at random intervals by this QA Inspector. The QAI observations included verification of the welding parameters, the minimum preheat and the maximum interpass temperatures for compliance with the contract specifications. This QAI utilized a Fluke 337 clamp meter to measure the electrical welding parameters, Tempil Heat Indicators and/or a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The random observations,

verifications of the welding and QC inspection, WPS's, consumables, welding parameters, preheat and interpass temperatures appeared to comply with the contract specifications.

This QA Inspector continued the daily review of field inspection reports and update of the field document control tracking records regarding the Orthotropic Box Girders (OBG, Longitudinal and Transverse "A" Deck Stiffeners, Deck Access Holes and the Tower Shear plates).

Summary of Conversations:

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection personnel scheduled for this shift.

Repair Issue

QC Lead Inspector, Bonifacio Daquinag, Jr., informed this QAI that a Repair Request for Approval identified as WWR 201201-002 has been submitted for review and approval of these two UT rejects. Later in the shift, this QAI was informed by Structural Materials Representative, Bahjat Dagher, that the repair request had been approved.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer